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## LIGHT EMITTING DIODES WITH IMPROVED LIGHT EXTRACTION EFFICIENCY

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DISCLOSURE NUMBER

### ABSTRACT OF THE DISCLOSURE

- 15 Light emitting devices with improved light extraction efficiency are provided. The light emitting devices have a stack of layers including semiconductor layers comprising an active region. The stack is bonded to a transparent lens having a refractive index for light emitted by the active region preferably greater than about 1.5, more preferably greater than about 1.8. A  
20 method of bonding a transparent lens to a light emitting device having a stack of layers including semiconductor layers comprising an active region includes elevating a temperature of the lens and the stack and applying a pressure to press the lens and the stack together. Bonding a high refractive index lens to a light emitting device improves the light extraction efficiency of the light emitting device  
25 by reducing loss due to total internal reflection. Advantageously, this improvement can be achieved without the use of an encapsulant.
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